REMARKS/ARGUMENTS

Claims 1-15 are pending.

Claims 1, 4, 7, 8, and 12-15 were rejected under 35 U.S.C. Section 103 in view of Tobin (U.S. Patent No. 5,982,920) and Ikeda (U.S. Patent No. 7,068,834).

Claims 2 and 9 were rejected under 35 U.S.C. Section 103 in view of Tobin, Ikeda, and Smilansky (U.S. Patent No. 7,016,526).

Claim 5 was rejected under 35 U.S.C. Section 103 in view of Tobin, Ikeda, and Li (U.S. Patent No. 6,130,959).

Claims 3 and 6 were rejected under 35 U.S.C. Section 103 in view of Tobin, Ikeda, and Maruo (U.S. Patent No. 6,408,105).

It is noted with appreciation that claims 10 and 11 are allowed.

The present invention relates generally to wafer inspection, and in particular to classifying defects. With regard to the claimed invention as recited in rejected independent claims 1, 7, 12, and 14 as originally filed, defects are classified into specific categories: repeated defects, clustered defects, arc-shaped defects, radial regional defects, line type regional defects, and ring & blob type defects. Defects which are not classified under any of the foregoing categories are classified as random. Hence, claim 1 recites in pertinent part:

> ... classifying the defect distribution characteristics into any one of the following distribution characteristic categories by using the information on the defect position on the processed substrate: repeated defects, clustered defects, arc-shaped regional defects, radial regional defects, line type regional defects, ring and blob type regional defects and random defect; and ...

See also similarly recited limitations in independent claims 7, 12, and 14.

The examiner correctly noted that Tobin does not teach "ring and blob type regional defects." The examiner cited Ikeda and explained, in response to Applicant's previously presented arguments:

> The examiner disagrees; Ikeda discloses in figure 1, various types of defects that occurs in an image (like a blob, which is an arbitrary shape filled with dark pixels or a ring of dark pixels). Ikeda does not have to state that it is either a blob defect or a ring defect; the various types of defects shown in figure 1 show such features; the examiner also believes that the applicant has heard of "a picture is worth a million words." The arguments presented by the applicant are not persuasive and the examiner will repeat the same rejections.

Office action, page 2. Applicant respectfully disagrees.

The examiner asserts that Ikeda does not have to state that it teaches a blob defect or a ring defect, noting that various types of defects are shown in Fig. 1. While Ikeda does show various types of defects in Fig. 1, Ikeda does not show that the defects are classified in accordance with specific defect categories.

In fact, Ikeda's classification is performed by a user, and more particularly by the judgment of a user, NOT based any set of categories. Ikeda explains in column 3, line 60 to column 4, line 6:

> Therefore, in the case where a plurality of detected defect images are to be classified, even if a number of defect images having complicated shapes are displayed, a user need only move the individual defect images to an optimal classification area having a typical image indicative of similar visual features in order to carry out the classification operation easily and quickly. In particular, since the classification operation can be carried out by a drag and drop operation using a mouse or the like on the screen, the classification operation can be carried out while looking at all the defect images on the display screen, with the result that the classification operation can be performed while relatively comparing all the defect images, and so its operativeness is excellent. The details of this operation will be described later. (emphasis added)

Clearly, there is no teaching of classifying according to *any* types of defect let along ring and blob types of defects. Ikeda clearly explains that the classification is performed based on the user's judgment.

The mere fact that Fig. 1 shows various types of defects, in and of itself, does not teach classifying defects according to ring and blob defects; *especially* when Ikeda *expressly* teaches that the user classifies a defect "while looking at all the defects images on the display screen," and *expressly* teaches that the user "need only move the individual defect images to an optimal classification area having a typical image indicative of similar visual features in order to carry out the classification operation."

Thus, while it may be true that "Ikeda does not have to state that it is either a blob defect or a ring defect," Ikeda must teach classifying defect according to ring an blob defects in order to remedy Tobin. As explained, Ikeda does not teach classifying defect according to ring

an blob defects, and so the combination of Ikeda and Tobin together fail to render obvious independent claims 1, 7, 12, and 14.

The rejections of the dependent claims are believed to be overcome based on the allowability of their respective independent claims.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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